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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/025,455 | 12/26/2001 | Takayoshi Oyamada | 0649-0814P | 2939 |

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| EXAMINER | |
|---|---|
| CHEA, THORL | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1752 | |

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/025,455 | OYAMADA ET AL. | |
| | Examiner | Art Unit | |
| | Thorl Chea | 1752 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,6-11 and 14-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 6-11, 14-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This office action is responsive to the communication on September 27, 2006 ; claims 1, 6-11, 14-17 are pending; claims 2-5, 12-13 have been canceled.

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. See note in the response on September 27, 2006 on page 5.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 6-11, 14-17 are rejected under 35 U.S.C. 103(a) as obvious over the combination of EP1004930 (EP'930), Matsumoto et al (US Patent No. 5,958,668) and Hayashi et al (US Patent No. 4,273,723). The EP'930 discloses a photothermographic material containing non-photosensitive organic silver salt grain similar to that of the claimed invention. The grain having aspect ratio (AR) of at least 3; the average of the average grain diameter of 0.01 to 0.8 μm; the average of the needle ratio of said grain measure from the principal plane direction (Needle ratio = (MxLNG)/(WIDTH) is not less than 1.1 and less than 10 (page 3, and page 4). On page 5, paragraph [0052 to 0053], the silver behenate, silver arachidate, and/or silver strearate are preferred organic silver salt. Matsumoto in column 17 lines 10-15 discloses "silver behenate is the most preferred in terms of whiteness and light stability. Silver behenate also has excellent moisture resistance, and can be used in combination with a reducing agent

having a relatively weak reducing ability". Hayashi et al in column 6, Example 1 the purity of silver behenate product as extremely high as 98.1 %.

It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to would have selected silver benehenate having grains structure within the scope taught in EP'930 to provide the non-photosensitive organic silver salt grains claimed in the present claimed invention. The worker of ordinary skill in the art would have selected the silver behenate of because of its excellent moisture resistance and the its having a relatively weak reducing ability recognized in Matsumoto with the high purity known in Hayashi et al and the non-photosensitive organic silver salt having grains structure taught in EP'930 provides photothermographic material with high sensitivity, reduced image defects as well as low fog.

The limitation of claims 6-8 are related to the claiming of a material by a process. "(E)ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or obvious from a product of prior art, the claim is unpatentable even though the prior art product was made by different process." In re Thorpe 777 F.2d 695, 698, 227 USPQ 694, 966 (Fed. Cir. 1985).

5. Claims 1, 6-11, 14-17 are rejected under 35 U.S.C. 103(a) as obvious over the combination of EP0962812 (EP'812), Matsumoto et al (US Patent No. 5,958,668), and Hayashi et al (US Patent No. 4,273,723).

EP'812 discloses a heat-developable material containing having fatty acid silver salt particle having the average equivalent-sphere diameter from 0.1 to 0.8 μm; the average ratio of long sides/short sides in main planes of 1 to 4; the aspect ratio of 2 to 30. The preferred aliphatic

carboxylic acids include cerotic acid, lignoceric acid, behenic acid, erucic acid, arachidic acid, stearic acid, ....camphoric acid and mixture thereof. See page 5, paragraph [0035] . The preparation of silver behenate is shown on page 25-26, especially Table 2. The material having one or more layer is shown on page 21, paragraph [0187]. Matsumoto in column 17 lines 10-15 discloses that "silver behenate is the most preferred in terms of whiteness and light stability. Silver behenate also has excellent moisture resistance, and can be used in combination wit a reducing agent having a relatively weak reducing ability". Hayashi et al in column 6, Example 1-2 discloses the purity of silver behenate product as extremely high as 98.1 %.

It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to would have selected silver benehenate having grains structure within the scope taught in EP'812 to provide the non-photosensitive organic silver salt grains claimed in the present claimed invention. The worker of ordinary skill in the art would have selected the silver behenate having high purity taught in Hayashi et an because of its excellent moisture resistance and the its having a relatively weak reducing ability recognized in Matsumoto and the non-photosensitive organic silver salt having grains structure taught in EP'812 provides photothermographic material with high sensitivity, reduced image defects as well as low fog.

The limitation of claims 6-8 is related to the claiming of a material by a process. "(E)ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or obvious from a product of prior art, the claim is unpatentable even though the prior art product was made by different process." In re Thorpe 777 F.2d 695, 698, 227 USPQ 694, 966 (Fed. Cir. 1985).

***Response to Arguments***

6. Applicant's arguments filed September 27, 2006 have been fully considered but they are not persuasive because of the reason set forth in the rejection above, the reason forth in the Office Action on July 26, 2006. It is the Examiner's position that the invention as claimed is prime facie obvious over the combination of the applied prior art of record. It has been found in EP'930 that the silver salt of an organic acid having dimension therein provide thermally heat developable material with high sensitivity as well as low fog, and the silver salt of an organic preferred therein the silver behenate, silver arachidate, and/or silver strearate. Each silver behenate, silver arachidate and silver stearate each same utility as silver source for heat dvelopable material. Silver behenate is the most preferred silver source since it provide heat developable material with excellent moisture resistance and its having a relatively weak reducing ability such as recognized by Matsumoto. The composition of the non-photosensitive silver salt of an organic acid claimed in the present claimed invention has silver behenate content within the range from 97-100 moles %. The upper limit of silver behenate is 100 mole % when the other component of 0 mole %, and the lower limit of the silver behenate is 97 mole % , and the other 3 mole % may include the silver arachidate, silver stearate and other type of silver salt of an organic acid. The scope of the claimed invention is not limited to the composition consisting of silver behenate, silver arachidate and silver stearate, but the other type of silver salt of an organic acid. See the open ended language such as "a non-photosensitive organic silver salt grain has" in claim 1. Supposedly, the composition of the non-photosensitive organic silver salt grains is consisting of silver behenate, silver arachidate and substantially no silver stearate, the composition would have been found prima facie obvious since the silver behenate, silver

arachidate and silver stearate have been known and have same utility, and the use thereof singly or as a combination would have been found prima facie obvious to the worker of ordinary skill in the art. It is prima facie obvious to combine two compositions each of which taught by the prior art to be useful for the same purpose in order to form a third composition to be used for the same purpose. In re Kerhoven, 205 USPQ 1069, 1072 (CCPA 1980).

It appears that the applicants argue that it would not have obvious to the worker of ordinary skill in the art to provide a non-photosensitive organic silver salt having silver behenate from 97 to 100 mole % since the behenic acid utilized in the references is produced from fatty acids derived from plants, naturally containing as impurities fatty acids with a chain length different from behenic acid, such as stearic acid and arachidic acid, and the behenic acid always contains silver stearate and/or silver arachidic acid impurities in higher amounts if it is not subjected to a further purification.

The argument is not well taken. The reference such as Hayashi et al (US Patent No. 4,273,723) discloses the non-photosensitive organic silver salt contains up to 98.1 mole % and Matsumoto discloses that silver behenate is the most preferred in terms of whiteness and light stability. Silver behenate also has excellent moisture resistance, and can be used in combination with a reducing agent having a relatively weak reducing ability. Therefore, the worker of ordinary skill in the art at the time the invention made to purify the behenic acid before the use thereof in the formation of silver behenate to achieve the results taught in Matsumoto. The applicants appear to argue the prior art separately while the rejections are based on the combination of the applied prior art of record. One cannot show nonobviousness by attacking references individually where

the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The argument with respect to the unexpected results provided in the Declaration on September 27, 2006 is not persuasive. First, the Declaration is not commensurate with the scope of the claimed invention. See the scope of the claim in comparison with the scope of Declaration. The non-photosensitive organic silver halide grains presented in the claimed invention should satisfy 1) substantially no silver stearate; 2) a length/width ratio of 1 to 9; 3) an aspect ratio of 1.1 to 30; 4) an equivalent-sphere diameter of 0.005 to 1 micron; 5) a content of silver behenate from 97 to 100 mole % per mol of the non-photosensitive organic silver salt and 6) a content of silver arachidate that is 3 mol % or less per mol of the non-photosensitive organic silver salt. The Declaration fails to show the criticality of the dimension of the silver salt of an organic acid presented in 2) to 4). The single value of length/with ratio of 1 in Tables I-1, I-2; the aspect ratio of 10, 9, 8 and the equivalent-sphere diameter of 0.48 cannot use to determine the scope of length/width ratio 1 to 9, the aspect ratio of 1.1 to 30 and the equivalent-sphere diameter of 0.05 to 1 micron claimed in the present claimed invention, and the applicants offer no basis in technical reasoning and/or objective evidence to support the conclusion that the demonstrated results can be extrapolated the dimensions presented in the Declaration with the dimension claimed in the present claimed invention. "It would appears that the probative value of the evidence is not commensurate with the degree of protection sought. In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); In re Grasselli, 713 F.2d 731, 218 USPQ 769 (Fed. Cir. 1983); In re Landgraf, 436 F.2d 1046, 168 USPQ 595 (CCPA 1971). It fails to show that the dimensition outside the scope of the claimed provide an inferior results even though the grains

contains same composition. Second, Table 1-1 shows the inventive samples (D,X,Y) from 98 to 100 mole % with 0 mole % of silver stearate and; volume weight average of 0.4 and 0.48 micron and the comparative sample (Z) contains 1 mole % silver stearate, 0 mole % silver arachidate, 99 mole % silver behenate and volume weight average of 0.48 micron. Table I-2 shows organic silver salt dispersions (D, X, Y) has length/width ratio of 1, aspect ratio (10, 9, 8) and the comparative sample (Z) has length/width ratio of 1.6 and aspect ratio (20). Second, it is improper to compare the sample (Z) with samples (D, X, Y) since they have different dimension i.e. length/width ratio and aspect ratio. Third, the term "substantially no silver state" presented in the claimed invention is not necessarily meant that the organic silver salt grains contains silver stearate of 0 mole %. See the term "silver stearate is substantially contained" in the specification. The specification discloses the acceptable amount of silver stearate is 1 mole % or less, and more preferably 0.5 mole % or less. Therefore, the scope of "substantially no silver stearate" cannot be determined since the specification fails to provide a mete and bound thereof.

Fourth, the sample shown in the Declaration was made in accordance with the Example 1 in the specification which is related to the preferred reducing agent such as the hindered phenol shown on page 30 in combination with the hydrogen bond-forming compound represented by formula (II) on page 40, the polyhalogen and other ingredient. The scope of the claims does not include such compounds and it is believed that the results shown in the Declaration cannot be achieved by using a silver salt of an organic compound as claimed with any type of reducing agent and silver halide. Fifth, the results shown in Table I-1 of the Declaration is a composition of the silver behenate and silver arachidate, while the scope of the claims contains silver arachidate, silver behenate, silver stearate and other known silver salt of an organic acid. The claims do not

contain the closed language such as "consisting of silver behenate, silver arachidate and silver stearate". Accordingly, it is believed that the invention as claimed still prima facie obvious over the combination of the applied prior art of record.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1700.

Tchea
October 3, 2006

Thorl Chea
Primary Examiner
Art Unit 1752